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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,386	09/26/2003	Shunichi Yagi	712-030A	8529

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EXAMINER

LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,386

Applicant(s)

YAGI, SHUNICHI

Examiner

Philip H Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-13, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 and 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☒ Claim(s) 3 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election without traverse of Figures 1-4, claims 1-9 in the 7-29-2004 response is acknowledged. However, it is assumed that Figures 4-6 are elected instead of Figures 1-4 as Figures 1-3 was elected in the parent application Ser. No. 09/677,987. It is also pointed out that the elected claims 1-9 should be claims 1-6 and 14 as claims 7-9 have been cancelled and the previously added claim 16 is dependent from an elected claim (claim 3).

2. Claims 10-13 and 17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The title should reflect the use of microwave heating.

4. In the specification, the numerous references to the claims, such as "claim 1 and claim 7" at line 3 and "claim 3 and claim 10" at line 4 and "claim 1" at line 18 of page 4; "claim 7" at line 31 of page 6, "claim 8" at line 4 of page 7 and also on pages 11 and 13-17; etc. are objectionable because "the claims" are subject to change and cancellation. Deletion of all these references is required.

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5. The drawings filed 9-26-2003 are objected to by the Examiner because each figure should be separately labelled. For example, Fig. 1 should be separately labelled as "Fig. 1(a)", "Fig. 1(b)", "Fig. 1(c)" and "Fig. 1(b)" instead etc. Correction is required.

Therefore, new corrected drawings in compliance with 37 CFR 1.121(d) are required in this application. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al (EP 0 014 121) or Omori et al (US 6,246,039) (both cited in the parent application), in view of Kim (US 4,477,707).

White discloses the claimed invention of a microwave heating method using an oven chamber 12, a microwave generator 1, a waveguide (3, 5, 6, 8) with one port connected to the generator and another port 8 having an enlarging cross section toward the oven 12 (see Figures 1, 2, 5 and 8 and pages 11-13). It uses a lens 9 for shaping, directing and focusing microwave energy to the port to reduce reflection (page 7, lines 10-16) instead of a reflector as claimed.

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Omori also shows a method of heating objects with microwaves, comprising the step of passing microwaves emitted from a microwave generator (2, 22) toward an oven (1) through a propagation path shaped (3, 23) so as to not hinder the propagation of microwaves incident toward the oven, and shaped so to make the cross-sectional area (3B, 23C) of the oven side port portion of the propagation path larger than the cross-sectional area (3A, 23A) of the microwave generator side port portion of the propagation path,. It uses antennas (24, 240) for matching the microwave transmission instead of a microwave reflector apparatus as claimed (see Figures 1-10 and col. 5, line 64 – col. 8, line 42). Kim shows a microwave heating device with microwave generators (14) and a waveguide sections 13 coupling the output from the generators to the heating cavity 12 and a reflector matching device 16 in each waveguide section to redirect the reflected wave back to the cavity (see Figure 2 and col. 3, line 47 – col. 4, line 11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify White or Omori to use a reflector inside the waveguide to redirect the reflected wave back to the oven for better impedance matching and better heating efficiency, in view of the teaching of Kim. In regard to claim 2, the cylindrical chimney 11 in White is the claimed straight metal tube connected to the microwave entry window. In regard to claim 4, as set forth above, Kim shows the use of two microwave ports on opposing positions for uniform heating.

8. Claims 5 and 6 are allowed.

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9. Claims 3 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

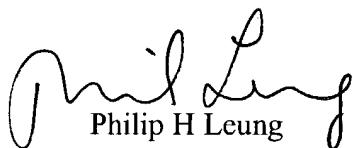
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fitzmayer (US 4,496,814), Meisel (US 4,752,663), McNulty (US 5,417,941) and Park (US 5,786,579) that were cited in the parent application are also made of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
9-01-2004